BARBADOS.

DEPARTMENT OF AGRICULTURE.

REPORT

ON THE

SUGAR-CANE EXPERIMENTS

FOR THE SEASON BETWEEN

1924—1926.

BY

J. P. D'ALBUQUERQUE, M.A., F.I.C, F.C.S.
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THE SUGAR CANE EXPERIMENTS

Conducted in Barbados during the season 1924-25.

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RAINFALL.

The rainfall is recorded in Table I. The rainfall in December 1924 and January 1925 was only moderate and in many places the spring of young canes was not good. A severe drought set in from the end of January and one of the smallest rainfall records for the period from the beginning of February to the end of June was experienced. This greatly retarded the growth of the young crop and the supplying of canes was frequently unsuccessful before the showers in June. After good, but, on the whole insufficient, showers in July and August, heavy rains fell in September, October and early November and there was a very remarkable recovery in the crop as the result. Unfortunately December also proved to be one of the driest on record and the vigorously growing crop was very much checked. Good showers in January 1926 were too late to add much further growth, and a dry February and March caused in many places a premature ripening of the canes.

Rainfall at Select Seedling Stations from December 1924 to March 1926.

TABLE I.

Stations.	Height above Sea Level.	December 1924.		January 1925.		February.		March.		April.		May.		June.		July.		August.		September		October.		November		December.		January 1926.		February.		March.		Total.	
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches
Dodds	210	20	2·95	17	2·24	6	·29	9	·64	3	·75	4	·45	12	2·46	16	3·03	21	4·59	17	6·92	17	9·65	18	4·35	5	·56	17	2·56	9	1·10	8	·84	199	43·38
Hampton	103	15	2·73	13	2·03	5	·74	6	·88	4	·83	8	·95	14	3·62	15	3·91	18	4·43	15	8·77	13	10·37	13	4·30	8	·79	14	2·83	7	1·18	6	·89	174	49·23
Carrington ...	110	19	3·32	15	2·47	6	·60	6	·88	6	1·00	9	1·03	17	4·57	19	4·34	19	4·41	19	9·83	16	11·18	14	5·11	7	·71	18	3·20	8	1·63	12	1·44	210	55·72
Brighton	271	11	2·66	8	2·22	2	·96	4	·63	3	·98	4	·77	10	3·88	15	3·86	18	6·10	14	8·89	14	10·04	11	5·14	7	1·03	14	2·97	8	1·48	7	·95	150	52·56
Hannays	183	15	3·85	15	2·46	4	·94	5	1·06	4	1·00	6	·89	12	3·45	14	4·76	16	5·20	14	10·10	14	11·08	13	4·90	7	1·35	16	3·04	7	1·52	6	1·09	168	56·69
Coverley	254	16	3·03	10	2·30	4	·72	5	·94	5	1·03	6	·80	10	2·62	14	4·32	15	4·88	16	10·44	14	10·77	8	3·09	8	·94	9	2·07	7	1·25	8	·93	155	50·13
Waterford ...	186	18	2·83	22	2·51	4	·41	8	·50	4	·38	8	·45	15	2·36	19	3·49	21	5·64	19	9·40	18	11·74	19	3·48	10	1·03	19	2·73	9	1·03	7	·53	220	48·54
Pickerings ...	71	16	3·18	12	1·31	9	1·19	11	·87	3	·48	7	·97	12	3·78	14	2·65	19	6·48	19	7·82	18	10·09	18	7·23	9	1·36	15	4·06	9	1·86	11	2·21	202	55·54
Clifton-Hall ...	792	16	2·43	13	2·45	6	2·26	7	·93	1	·13	8	·80	13	3·79	16	3·32	18	6·32	17	7·85	14	8·24	16	5·11	7	1·64	18	2·65	8	1·57	9	1·78	187	51·27
Lemon-Arbor ...	720	19	3·22	18	2·73	8	2·03	7	·96	5	·69	9	1·07	15	4·52	16	5·04	21	8·75	19	8·65	18	11·50	17	9·01	9	1·87	18	4·46	11	2·18	7	2·35	217	69·03
Vaucluse ...	731	21	4·12	24	3·73	8	1·30	10	1·91	7	1·93	9	1·22	15	4·24	20	4·53	21	8·08	22	9·43	20	10·76	19	5·06	9	1·85	20	3·96	13	1·67	9	1·60	247	65·39
Ridgeway ...		16	3·89	13	2·91	9	1·67	5	·85	3	1·36	4	·79	12	4·16	17	4·77	25	8·99	18	9·24	18	10·32	21	7·73	7	1·68								

SEED SAVING AND SOWING.

SEEDLINGS OF WHICH ONLY THE SEED BEARING (FEMALE) PARENTS KNOWN.

During the months of November-December seed was gathered from ripe arrows maturing in open fields and a total of 950 boxes 2′ x 1′ by 6″ deep was sown with seed of the following seed bearing parents :—

B. 6450	B. 381
Ba. 6032	B. 391
B.H. 10 (12)	B. 397
Ba. 11569	B. 405
B. 374	B. 417

S.C. 12 (4).

Of the above only the seed bearing (female) parents were known, the sources of the pollen (male cells) being unknown.

Notwithstanding the large number of boxes sown (950), owing to a very low percentage of germination, only 5,051 seedlings were obtained for potting, namely :—

Seed Bearing Parent.	No. of Seedlings potted out.	Seed Bearing Parent.	No. of Seedlings potted out.
B. 6450	1,038	B. 391	967
Ba. 6032	248	B. 397	70
B.H. 10 (12)	183	B. 405	170
Ba. 11569	2,057	B. 417	73
B. 374	225	S.C. 12 (4)	23
B. 381	None		

The seed was gathered, by the First Field Assistant, an officer of several years experience, in the same manner as that used in previous years and whether the low percentage of germination was due to the weather conditions (several weeks of drought after the arrows began to form) or to the late date of the beginning of this work of the reorganized Department it is impossible, at present, to say. Little or nothing appears to be known, of the conditions in Barbados that influence the production of fertile cane seed and a study of this subject should be an early duty of this Department. The future use of the Pot Immersion Cisterns (to be hereafter described) as seed beds, will enable an enormous number of seed to be sown in future years, and by spreading the period of sowing over the whole arrowing season, using arrows from all parts of the Island, it is hoped to secure a correspondingly large number of seedlings from which to select for potting and field planting.

SELFS AND CROSSES. CANE ARROW LANTERNS.

An attempt to obtain selfed seedlings and definite crosses was made as follows.

The arrows when about to emerge from their sheaths were enclosed in "cane arrow lanterns" constructed as follows. The lantern consists of a rectangular glass case 3 feet high and 2 feet rectangular cross section. It is open at the bottom in order that it may admit the arrow from below and it is supported on four tall legs, adjustable in height. It is placed over the growing arrow in the canefield and stayed with wires connected with the four corners of the case and with iron stakes driven in the ground. The cane stalk bearing the arrow is stayed in two or three parts of the stalk to corresponding places on each of the four legs. The top and one of the sides of the lantern are hinged to open. On the windward and leeward sides the glass is replaced by a double layer of domestic cloth to admit of ventilation and to exclude foreign pollen. Tests showed that this arrangment was pollen proof. A skirt of domestic cloth was also tacked securely around the bottom of the lantern and securely tied around the stalk bearing the arrow. This was also for the purpose of ventilation and the exclusion of foreign pollen : and was found to be pollen proof. The top window was shaded by an awning of domestic cloth, supported 6 inches above the window, in order to allow of a play of air over the top of the lantern.

In those lanterns in which it was sought to obtain selfed seed, nothing more was necessary than to shake the stalk and arrow daily to encourage the fall and distribution of the pollen on the stigmata of the same arrow.

In those lanterns in which it was sought to obtain crossed seed from day to day, in different sections from the top of the arrow downwards, as the flowers

matured and the anthers were exposed and before they burst, they were blown off the filaments by a blast of dry air from a tin "nebulizer" or "atomizer" such as is supplied with "skat," "flyosan" and other vermin killers. This method, using water instead of dry air, was demonstrated by Professor Harland to his class at the Imperial College of Tropical Agriculture, Trinidad, as effective in deantherizing cane arrows. It was originated, I understand, by Oliver, a Botanist in the U.S. Department of Agriculture, working on *Compositae*. By examination of some of the branches of the emasculated flowers, it was found that 80 to 90 per cent of the flowers were emasculated. And it is hoped that with practice a higher percentage of emasculation will be obtained. The unburst anthers fall to the bottom of the lanterns and are easily removed on a tray placed to receive them. Immediately after each deantherization the arrow was dusted with ripe pollen from the variety with which it was sought to obtain a cross.

Besides the cane arrow lanterns used in the field over growing canes, following the method evolved by A. Verret and others working at the Hawaiian Sugar Planters Experiment Station, a number of arrows on short lengths of stalk were immersed in 1 in 2000 sulphur dioxide solution and enclosed in cane arrow lanterns.

From the cane arrow lanterns used in the field the following fertile seed was obtained.

Seed Bearing (Female) Parent.	Pollen Bearing Parent.	No. of Fertile Seed.	No. of Seedlings alive on April 15, 1926.
Uba	B. 417	None	None
Uba	Ba. 11569	None	None
Uba	B.H. 10 (12)	1	None
B. 417	Ba. 11569	None	None
B. 374	B. 417	1	1
B.H. 10 (12)	B. 417	19	10
B.H. 10 (12)	B. 417	None	None
B. 6450	B. 417	None	None
Ba. 11569	B. 417	None	None
Ba. 6032	B. 417	None	None
B. 417	Selfed	None	None
B. 374	,,	4	3
B.H. 10 (12)	,,	None	None
B.H. 10 (12)	,,	None	None
B. 6450	,,	1	None
Ba. 6032	,,	12	11
Ba. 11569	,,	2	1

From the cane arrows enclosed in lanterns in the open sun and immersed in sulphur dioxide solution, no fertile seed was obtained. Probably the temperature in the lanterns was too high for the cut stalks immersed in the solution. In Hawaii the work was carried on in pollen proof rooms apparently not exposed to the direct glare of the sun.

The B.H. 10 (12) arrows in the open field, usually produce comparatively few fertile seed and the largest number produced by any such arrow this season was 10. Looking to the fact that the lantern enclosed B.H. 10 (12) arrow which produced fertile seed was 80 to 90 per cent emasculated and that it produced 19 fertile seed, there is a high degree of probability that a fair proportion of the seedlings were crosses between B.H. 10 (12) and B. 417.

These are two of the heaviest (as well as richest) seedling varieties grown in Barbados and it is curious to note that neither the crosses obtained from them, nor any other of the seedlings grown from seed matured in the lanterns are at present (the middle of April) so far advanced in growth as the seedlings gathered from arrows, matured in the open. This suggests the idea that under the temperature and moisture conditions in the lantern the seed do not mature as well as outside, and that this leads to slower germination and slower initial growth, perhaps due to a smaller supply in the seed of reserve food. This, however, may not affect the final results of growth, which in the case of these crosses and "selfs" will be watched with much interest.

Two arrows of Ba. 11569 were allowed to mature in the lanterns with the object of securing selfed seed of this variety, which, in the open field, is one of the most prolific bearers of fertile seed. Not a single fertile seed, however, was secured : a result which may have been due to the absence of fertile pollen either in the variety or in the particular arrows used. This will form a subject for further investigation.

GROWTH IN POTS.

From the boxes the seedlings were pricked out into six inch pots during January and February 1926. In order to secure equality both in time and in amount of water added to each pot when watering, this operation was carried out in "Pot Immersion Cisterns". These are shallow rectangular concrete cisterns 50 feet long by 40 feet wide, in which the pots 8 abreast are placed in rows with paths 2 feet wide between the rows. The cistern is carefully levelled so that the pots are all on one level and equally immersed in the water. The water is let in to a depth of about 1½ inches and an hour later it has reached by capillarity the top of the pots. The surplus water is then let out of the cistern by opening a vent hole, gutters along the side of the paths being so arranged and graduated in depth as to allow rapid drainage. The pots are so watered every morning.

The pot immersion cisterns are screened by wind screens 8 feet high or more on the North Eastern and South Eastern sides.

The seedlings grew in the six inch pots until April when

(a) some are being transferred to twelve inch pots for further growth with the view of keeping them under observation until the rainy season sets in and they can be planted in non-irrigated land at Dodds,

(b) some are being planted out in the irrigated Waterford land with a lining of 5 feet square and

(c) some are being planted out with a lining of 2 feet square with the view of selecting from them only the best for transplanting to a lining of 5 feet square.

In selecting the seedlings for planting out, in general, as in previous years, those seedlings with the longest growth are being selected : but, suggested by the two very interesting papers by Robert L. Davis describing his seedling cane selection work at the U. S. A. Department of Agriculture Experiment Station at Mayaguez, Porto Rico, 360 seedlings, each three and a half months old have been divided

into seedlings	with	5	suckers	
,,	,,	,,	4	,,
,,	,,	,,	3	,,
,,	,,	,,	2	,,
,,	,,	,,	1	,,
,,	,,	,,	0	,,

The seed bearing parents of these seedlings belong to the B. 6450, Ba. 11569, B. 391 varieties and of the seedlings derived from each of these parents,

20	seedlings	with	5	suckers
20	,,	,,	4	,,
20	,,	,,	3	,,
20	,,	,,	2	,,
20	,,	,,	1	,,
20	,,	,,	0	,,

have been planted out with the object, following R. L. Davis's method, of studying, the correlation between the final weight and length of the mature stools and the number of suckers and total length of shoot at two and a half to three and a half months old. For readers who have not perused the papers referred to, it may be mentioned that the object of this study is to establish means of selection of the best varieties when two or three months old, so that the comparatively useless seedlings now grown in large numbers to maturity before they can be eliminated, may be eliminated in the very early stages of growth. This will leave room for the growth of a much larger number of the best plants.

FIRST YEAR SEEDLINGS.

In July 1925, 1,000 seedlings growing in pots at Dodds were planted out in a field lined 5 feet by 5 feet at Waterford, St. Michael, where they could be watered with water buckets. They could not be planted out earlier at Dodds because of dry weather and the lack of water for watering. They were, therefore, planted out very late at Waterford, but as soon as sanction could be obtained for the use of the land, and the land prepared for use.

Similarly at the same time, 1,000 seedlings were planted out at Andrews, St. Joseph, a red soil plantation, where water is available. These Andrews grown seedlings however have been abandoned because a crop of canes had just been reaped from this land and the manuring and tillage of the land was necessarily hurried prior to their planting: consequently the growth was poor. Moreover, it was decided that red soil land was unsuitable for the growth of first year seedlings for these reasons. On red soils the crop remains upon the land for 3 seasons, namely as plants, first ratoons, second ratoons.

Under the present method of planting out seedlings from pots only ten per cent or thereabout at maturity are found fit for further cultivation. This means that 90 per cent of the seedlings growing in the field are worthless; and to be committed to their growth, for three seasons, would mean a heavy loss of time and money. Hence, for the present, the projected Red Soil Central Seedling Station has been abandoned.

The first year seedlings planted at Waterford in July 1925 were reaped on the 14th and 15th April 1926, that is, after only 9 months growth as compared with 15 months growth under ordinary Barbados planting conditions.

Of each stool the canes and tops were weighed, and the whole or part of the stool was milled and the juice analysed. In cases where all the canes of a stool were milled and the juice analysed, the stumps were available, as in the past to be dug up, divided into two parts, and replanted and watered to secure growth for a supply of plants for replanting in November. Where only part of the canes of a stool was used up for milling and analysis the balance of the canes was available, in addition to the stumps for replanting.

In order to ascertain whether or not the milling and analysis of part of the stools would enable their relative richness in sugar to be ascertained, the following experiment was carried out with ten stools of selected weight. The stalks from each stool were mechanically sampled into four equal parts: and each stalk was divided into two halves of upper and lower. There were thus produced eight samples, four upper halves and four lower halves, from each stool. Each of these samples was milled and the juice analysed. The following extracts from the results will be sufficient to indicate the conclusions arrived at. They give the weights of each stool, the average saccharose pound per gallon for the whole stool, the average saccharose pound per gallon for two of the lower half samples (i.e. one quarter of stool). The conclusion drawn was that if each stool is mechanically sampled into two equal parts, the stalks of one part divided into equal halves, upper and lower, and the lower halves of that one part milled and the juice analysed, the results in *order of richness* are nearly the same as for the whole stool. The method, which enables three quarters of the stool to be cut up for replanting, was therefore adopted for all the remaining first year seedlings.

Weight of Stool	Saccharose, lb. per gallon in	
	Whole Stool	One Quarter of Stool.
lb.		
42	1·08	1·20
37	1·14	1·20
30	1·16	1·39
46	1·22	1·47
28	1·29	1·49
29	1·40	1·43
25	1·50	1·58
24	1·63	1·80
(41	1·72	1·88)
(51	1·72	1·84)

Taking as our basis for replanting a stool weight of not less than 30 pounds and a juice richness of not less than 1·5 pounds per gallon of saccharose the stools of which the results are bracketed would be those chosen, whether the choice was made from the results, of the whole stool or the one quarter thereof.

The following results obtained with the first year seedlings are of interest.

Seed Bearing Parent.	Stools Weighing.	No. of Stools.
Ba. 11569	Between 0 and 10	145
	11 and 20	284
	21 and 30	95
	31 and 40	38
	41 and 50	9
	51 and 60	2
	Over 60	1
Ba. 6032	Between 0 and 10	28
	11 and 20	28
	21 and 30	11
	31 and 40	2
	41 and 50	3
	51 and 60	None
	Over 60	None
B. H. 10 (12)	Between 0 and 10	1
	11 and 20	9
	21 and 30	8
	31 and 40	3
	41 and 50	2
	51 and 60	1
	Over 60	None
B. 417	Between 0 and 10	12
	11 and 20	4
	21 and 30	None
	31 and 40	None
	41 and 50	None
	51 and 60	None
	Over 60	None

FIRST YEAR SEEDLINGS WHICH WERE ANALYSED.

Seed Bearing Parent.	lb. per gal. Sacch. in juice.	No. of Stools.
Ba. 11569	Below 1·00	None
Ba. 11569	1·00 – 1·50	26
Ba. 11569	1·51 – 1·75	60
Ba. 11569	1·76 – 2·00	20
Ba. 11569	Above 2·00	2
B.H. 10 (12)	Below 1·00	None
B.H. 10 (12)	1·00 – 1·50	None
B.H. 10 (12)	1·51 – 1·75	1
B.H. 10 (12)	1·76 – 2·00	9
B.H. 10 (12)	Above 2·00	2
Ba. 6032	Below 1·00	None
Ba. 6032	1·00 – 1·50	3
Ba. 6032	1·51 – 1·75	6
Ba. 6032	1·76 – 2·00	2
Ba. 6032	Above 2·00	None
		131

The following stools were selected for replanting as 2nd year seedlings.

FIRST YEAR SEEDLINGS REPLANTED AT WATERFORD.

Seed Bearing Parent.	Canes lb. per stool.	Sacch. lb. per gal.	No. of Seedlings.
Ba. 11569	18 - 30	1·25 - 1·89	4
Ba. 11569	31 - 40	1·27 - 2·03	20
Ba. 11569	41 - 65	1·27 - 1·86	6
B. H. 10 (12)	18 - 30	1·94 - 2·22	2
B. H. 10 (12)	31 - 40	1·79 - 1·87	3
B. H. 10 (12)	41 - 51	1·95 - 1·99	3
Ba. 6032	44	1·82	1

Of each variety selected for replanting as 2nd year seedlings, 36 holes were planted in three plots of 12 holes (4 by 3) placed about the field with the view of the elimination of the effects of local differences in the land.

THIRD YEAR SEEDLINGS.

112 plots of second year seedlings growing in Upper Pleasant Vale Field at Summervale plantation were reaped, weighed, milled and analysed in March (1926). The number of stools reaped from each plot varied between 2 and 10. The weight of each stool varied between 19 and 62·5 pounds and the saccharose in the expressed juice between 1·20 and 2·31 pounds per gallon.

77 of these seedlings were replanted in the field at Waterford. Of each seedling 4 plots of 15 holes each were planted out, and distributed over the field with the view of eliminating inequalities in the land : and watered to secure a spring of canes. Of the seedlings replanted the average weight per stool of the varieties varied between 28 and 62·5 pounds and the saccharose in the expressed juice between 1·60 and 2·31 pounds per gallon.

NEW SELECT SEEDLINGS.

Thirteen third year seedlings growing at Dodds were selected for heavy tonnage and quality of juice and planted at the 24 select seedling stations in November and December 1925. The balance of the plots after cutting the plants were reaped in March and the canes milled and analysed. The results are given n tables II and III.

TABLE II. THIRD YEAR SEEDLINGS PLANTED AT SELECT SEEDLING STATIONS. FIELD AND FACTORY RESULTS.

Name of Variety.	No. of Stools reaped.	Lining feet.	No. of Canes.		Per cent by No. of Rotten Canes.	Tons per Acre		Juice.				lb. per acre Saccharose in Juice.
			Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	
B. 465	20	5 x 5	22,298	12·80	4·30	27·02	7·12	65·00	20·6	1·92	86·1	6,984
B. 505	18	„	20,808	11·94	3·72	27·48	3·76	64·50	20·0	1·88	87·0	6,917
B. 585	14	„	23,517	13·50	16·40	22·28	3·28	64·00	19·4	1·80	86·1	5,340
B. 604	27	„	19,614	11·26	3·29	26·79	3·97	65·00	20·2	1·94	89·0	7,006
B. 605	16	„	23,951	13·75	8·18	29·07	4·42	63·00	19·8	1·84	86·0	7,000
B. 606	11	„	25,180	14·45	11·32	35·35	4·95	66·00	19·8	1·82	85·1	8,821
B. 612	...	„		All	cut for	Plants.						
B. 613	...	„		All	cut for	Plants.						
B. 654	21	„	28,950	16·62	11·18	29·33	3·30	59·00	19·8	1·83	85·5	6,579
B. 662	20	„	22,820	13·10	18·70	27·41	3·77	63·00	19·8	1·77	82·7	6,351
B. 663	...	„		All	cut for	Plants.						
B. 664	22	„	19,558	11·23	4·45	20·29	3·71	62·00	22·4	2·14	87·7	5,534
B. 666	18	„	22,550	12·94	7·30	36·16	5·83	67·00	19·2	1·59	76·8	8,023

TABLE III.—THIRD YEAR SEEDLINGS PLANTED AT SELECT SEEDLING STATIONS. COMPOSITION OF JUICE.

Name of Variety.	Extraction per cent. by mill.	Degree Brix.	Water.	Saccharose.	Glucose.	Other Substances.	Purity.
B. 465	65·00	20·6	79.38	17·75	1·05	1·82	86·1
B. 505	64·50	20·0	79·98	17·42	·77	1·83	87·0
B. 585	64·00	19·4	80·58	16·72	·89	1·81	86·1
B. 604	65·00	20·2	79·81	17·96	·69	1·54	89·0
B. 605	63·00	19·8	80·15	17·07	·96	1·82	86·0
B. 606	66·00	19·8	80·15	16·88	·93	2·04	85·1
B. 612		All cut for Plants.					
B. 613		All cut for Plants.					
B. 654	59·00	19·8	80·15	16·97	1·06	1·82	85·5
B. 662	63·00	19·8	80·15	16·42	·96	2·47	82·7
B. 663		All cut for Plants.					
B. 664	62·00	22·4	77·61	19·64	·79	1·96	87·7
B. 666	67·00	19·2	80·75	14·78	1·01	3·46	76·8

SELECT SEEDLINGS.

196 plots of 20 select seedlings grown at 12 stations 9 of them being black soil plantations and 3 being red soil plantations, were reaped, milled and analysed and the results are given in tables IV—XII. The tables of averages enable the reader to readily find out the relative composition of the juice of the different varieties and the relative field and factory results, in black and red soils, plants and ratoons. The detailed field and factory results are also given : as well as tables showing the limits of variation in the richness of the expressed juice. The milling, in every case, was carried out with a small three roller mill driven by an oil engine.

The variety B. 417 is not included in these tables as, after the distribution of this variety in November last for plantation trial, there was not enough left to reap for comparison with the other varieties.

In the black soils, plant canes, B. 381 is an interesting cane as being the closest competitor with Ba. 11569.

In the red soil stations, B. 381 as plant canes ranked with B.H. 10 (12) and Ba. 11569 as one of the finest varieties. The amounts of saccharose per acre in the canes are here and there enclosed in brackets. In these cases the per cent of saccharose in the cane was taken from the average result obtained for the variety, and not from the analysis of the individual plot.

TABLE IV.—AVERAGES.—SELECT SEEDLING STATIONS. *Black Soils.—Plant Canes.*

FIELD AND FACTORY RESULTS.

Name of Variety.	No. of Station.	No. of Plots.	No. of Canes.		Per cent by No. of rotten canes.	Tons per Acre		Juice.				Lb. per Acre Saccharose.	
			Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans.	9	13	17,420	12·46	7·70	22·00	3·34	62·88	20·7	1·96	87.4	7,599	5,575
Ba. 6032	9	13	16,848	12·08	4·94	27·86	3·04	63·58	19·8	1·84	86·0	8,727	6,759
B.H. 10 (12)	9	13	18,083	12·91	4·47	27·20	3·02	63·23	23·0	2·22	88·6	10,052	7,829
Ba. 8069	2	3	16,717	12·87	7·23	27·90	2·37	63·17	21·2	1·98	86·1	9,319	7,209
Ba. 11569	9	13	17,852	12·77	4·00	33·06	3·80	62·90	22·0	2·11	88·2	11,956	9,042
B. 2001	2	4	22,664	15·74	3·98	32·10	3·83	62·13	19·3	1·74	83·7	...	7,219
B. 67	7	10	17,015	12·80	5·93	26·58	3·60	67·00	21·3	2·00	86·8	9,186	7,348
B. 117	2	3	18,801	12·25	4·50	28·23	3·49	63·17	23·1	2·22	87·9	...	8,091
B. 263	2	2	20,786	14·35	6·15	24·41	2·89	64·50	21·1	2·03	88·5	9,260	6,541
B. 268	6	8	14,899	10·21	7·37	25·79	3·11	63·94	20·3	1·91	87·3	9,153	6,536
B. 381	4	6	17,850	11·85	4·48	33·80	4·55	64·92	21·5	2·10	89·9	12,150	9,460
B. 391	3	3	20,916	14·36	4·70	29·03	4·17	63·67	21·2	2·02	88·0	10,356	7,714
B. 397	2	3	18,529	13·39	·96	23·03	3·84	59·33	23·9	2·32	88·8	...	6,507
B. 425	4	6	16,413	12·81	5·00	25·04	2·70	62·45	22·8	2·26	90·6	9,028	7,233
B. 472	6	7	16,878	12·54	1·96	28·24	4·04	62·57	22·4	2·18	89·6	10,410	7,975
B. 600	3	4	21,564	13·45	3·23	30·54	4·46	62·50	20·1	1·88	86·7	9,836	7,445
B. 603	4	6	20,591	13·20	1·64	28·02	3·53	63·33	21·1	2·00	87·7	9,583	7,310

TABLE V.—AVERAGES.—SELECT SEEDLING STATIONS.

Red Soils.—Plant Canes.

FIELD AND FACTORY RESULTS.

Name of Variety.	No. of Station.	No. of Plots.	No. of Canes.		Per cent by No. of Rotten Canes.	Tons per Acre		Juice.				Lb. per Acre Saccharose.	
			Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans.	3	5	19,681	11·27	12·36	29·15	5·68	64·00	20·5	1·94	87·4	9,947	7,482
Ba. 6032	3	5	18,447	10·59	1·98	39·56	4·55	65·80	19·7	1·86	87·5	12,513	10,056
B.H. 10 (12)	3	5	20,023	11·49	2·51	41·85	5·79	64·60	21·6	2 08	88·2	14,839	11,526
Ba. 11569	3	5	22,218	12·65	9·16	42·22	5·94	64·20	21·6	2·11	90·0	15,301	11,816
B. 39	1	2	18,786	10·78	2·47	31·27	7·13	67·00	21·0	2·02	88·6	(9,960)	8,748
B. 67	3	5	21,947	12·33	14·98	33·09	6·78	67·00	20·7	1·92	85·8	10,576	8,789
B. 268	2	3	17,701	10·16	4·01	32 03	4·27	65·67	21·1	2·04	89·1	11,398	8 870
B. 381	1	2	19,417	11·15	17·59	44·43	4·92	65·00	20·0	1·98	88·6	15,506	11,850
B. 391	1	2	21,777	12·50	3·83	37·79	6·96	64·00	22·2	2 20	90·9	14,185	10,945
B. 405	1	2	22,212	12·75	21·98	35·84	4·28	68·00	20 8	1·94	86·2	12,548	9,783
B. 472	3	5	18,069	10·37	4·97	38·10	5·85	63·80	21·8	2·13	89·9	13,707	10,670

TABLE VI.—AVERAGES.—SELECT SEEDLING STATIONS. *Red Soils.—First Ratoons.*

FIELD AND FACTORY RESULTS.

Name of Variety.	No. of Station.	No. of Plots.	No. of Canes		Per cent. by No. of Rotten Canes.	Tons per Acre		Juice.				Lb. per Acre Saccharose	
			Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans.	3	4	20,223	11·61	16·62	25·39	5·48	62·75	19·0	1·77	86·4	7,515	5,865
Ba. 6032	3	4	19,340	12·20	1·38	30·19	4·91	63·75	18·9	1·74	85·3	8,887	6,973
B.H. 10(12)	3	4	18,974	10·89	4·29	30·28	5·30	62·50	22·2	2·14	88·6	10,736	8,327
Ba. 11569	3	4	23,391	13·43	23·27	25·99	4·18	61·00	21·7	2·09	88·8	9,302	6,866
B. 39	2	2	24,738	14·20	8·60	33·11	5·63	66·00	20·4	1·93	87·3	10,545	8,780
B. 67	3	4	22,170	12·73	10·27	27·04	5·76	65·75	20·0	1·88	87·2	8,889	6,934
B. 405	1	2	21,176	12·16	4·77	31·74	8·58	62·00	20·6	1·93	88·8	10,222	8,068

TABLE VII.—FIELD AND FACTORY RESULTS. SELECT SEEDLING STATIONS. *Red Soils.—2nd Ratoons.*

Name of Variety.	No. of Station.	Height above Sea level, feet.	Rainfall, Inches.					Lining, Feet.	No. of Canes		Per cent. by No. of Rotten Canes.	Tons per Acre		Juice.				lb. per Acre Saccharose	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans. ...	10	792	8·07	8·04	27·52	7·61	51·27	5 x 5	20,063	11·52	5·33	23·79	6·22	62·00	20·4	1·97	89·1	7,710	6,021
Ba. 6032 ...	,,	,,	,,	,,	,,	,,	,,	,,	19,180	11·02	None	26·68	4·91	65·00	19·4	1·84	88·0	9,004	6,638
B.H. 10 (12) ...	,,	,,	,,	,,	,,	,,	,,	,,	28,164	16·17	5·09	40·25	8·16	65·00	21·4	2·07	89·2	13,785	11,177
Ba. 11569 ..	,,	,,	,,	,,	,,	,,	,,	,,	21,216	12·18	35·55	22·12	4·13	62·00	21·8	2·11	89·0	7,984	6,043
B. 67 ...	,,	,,	,,	,,	,,	,,	,,	,,	19,077	10·96	14·18	28·94	7·25	68·00	20·0	1·88	87·0	9,852	7,679
B. 405 ..	,,	,,	,,	,,	,,	,,	,,	,,	18,114	10·40	1·67	28·62	8·42	63·00	20·4	1·97	89·1	9,492	7,359

TABLE VIII.—AVERAGES.

COMPOSITION OF JUICE.

Name of Variety.	Extraction per cent by mill.	Degree Brix.	Water.	Saccharose.	Glucose.	Other Substances.	Purity.
W. Trans.—Mean of 14 Samples	63·00	20·3	79·59	17·80	1·03	1·58	87·2
Ba. 6032 „ 10 „	63·85	19·6	80·41	16·91	1·05	1·54	86·3
B. H. 10 (12) „ 10 „	63·40	22·4	77·51	19·80	·93	1·66	88·4
Ba. 8069 „ 2 „	63·75	21·1	78·92	17·99	·87	2·22	85·4
Ba. 11569 „ 11 „	62·52	21·8	78·18	19·42	·94	1·47	89·0
B. 2001 „ 3 „	62·50	19·5	80·44	16·28	1·21	2·07	85·0
B. 39 „ 2 „	66·00	20·4	79·60	17·81	1·04	1·55	87·3
B. 67 „ 8 „	66·50	20·6	79·42	17·81	·96	1·82	86·5
B. 117 „ 2 „	63·50	22·6	77·37	19·84	·89	1·91	87·6
B. 263 „ 2 „	64·50	21·1	78·92	18·68	·95	1·45	88·6
B. 268 „ 2 „	64·00	21·4	78·58	18·94	·83	1·66	88·4
B. 374 „ 2 „	61·75	22·2	77·82	19·89	1·12	1·18	89·6
B. 381 „ 2 „	65·00	20·9	79·09	18·75	·79	1·39	89·6
B. 391 „ 2 „	63·50	20·8	78·20	19·60	1·02	1·18	89·9
B. 397 „ 2 „	57·50	23·6	76·35	20·96	·88	1·77	88·8
B. 405 „ 4 „	64·63	21·0	79·05	18·56	·81	1·60	88·5
B. 417 „ 2 „	61·50	20·6	77·39	18·31	·82	1·50	88·8
B. 425 „ 5 „	62·14	22·9	77·07	20·79	·76	1·38	90·7
B. 472 „ 7 „	62·57	22·5	77·47	20·23	·79	1·51	89·8
B. 600 „ 3 „	62·67	20·0	79·98	17·33	·92	1·78	86·6
B. 603 „ 2 „	65·00	21·0	79·01	18·37	·91	1·72	87·5

TABLE IX.—FIELD AND FACTORY RESULTS. *Black Soils—Plant Canes.*

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES		Per cent. by No. of Rotten Canes.	TONS PER ACRE		JUICE.				LB. PER ACRE SACCHAROSE	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans.	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	16,945	9·73	7·01	21·56	3·53	69·50	18·6	1·66	83·0	(7,201)	5,191
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	17,134	11·80	15·54	25·19	3·48	63·00	21·0	2·01	88·2	8,866	6,596
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	15,198	10·47	7·94	24·71	3·00	64·00	21·4	2·01	86·6	9,276	6,560
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	16,939	14·00	8·57	17·16	2·38	63·00	21·4	2·03	87·5	5,834	4,529
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	13,551	11·20	2·68	15·66	3·87	64·00	21·6	2·11	89·8	5,628	4,363
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	16,737	13·84	6·98	24·26	2·87	62·00	19·9	1·81	84·2	7,890	5,646
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	16,314	13·49	5·28	19·55	3·63	62·00	21·4	2·07	89·2	6,970	5,177
	9	71	6·55	7·88	31·62	9·49	55·54	5 x 5	23,576	13·53	6·33	20·68	4·37	60·00	21·0	2·04	89·5	(6,905)	5,232
	14	...	9·32	11·08	36·28	...	...	5 x 6	18,247	12·56	13·26	28·09	2·38	62·00	19·0	1·81	88·7	(9,382)	6,570
Mean of 13 plots	..	...	...	...	...	...	...	...	17,420	12·46	7·70	22·00	3·34	62·88	20·7	1·96	87·4	(7,599)	5,575
Ba. 6032	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	18,794	10·79	5·35	29·47	3·89	66·00	19·6	1·82	86·2	(9,163)	7,360
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	18,005	12·40	11·29	29·39	2·44	65·00	19·2	1·76	85·0	8,827	7,001
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	15,001	10·34	7·11	26·10	2·29	65·00	19·8	1·84	86·0	(8,115)	6,486
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	14,640	12·10	7·16	26·11	2·07	62·00	19·4	1·78	85·2	8,135	5,995
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	13,874	11·47	5·81	17·36	2·34	62·00	20·0	1·91	88·4	5,381	4,266
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	17,040	14·09	5·32	25·80	2·33	61·75	20·2	1·87	85·6	(8,067)	6,160
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	15,668	12·95	3·09	25·71	3·23	65·00	20·4	1·87	84·6	8,521	6,474
	9	71	6·55	7·88	31·62	9·49	55·54	5 x 5	20,232	11·62	1·57	33·45	4·93	63·00	20·2	1·91	87·6	(10,399)	8,347
	14	...	9·32	11·08	36·28	...	...	5 x 6	17,811	12·26	None.	37·75	3·22	62·00	18·4	1·70	86·3	(11,737)	8,313
Mean of 13 plots			...			...	...	...	16,848	12·08	4·94	27·86	3·04	63·58	19·8	1·84	86·0	8,727	6,759

TABLE IX.—(*Contd.*)—FIELD AND FACTORY RESULTS. *Black Soils.—Plant Canes.*

SELECT SEEDLING STATIONS.

NAME OF VARIETY.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES.		Per cent. by No. of Rotten Canes.	TONS PER ACRE.		JUICE.				LB. PER ACRE SACCHAROSE.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B.H. 10 (12) ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	23,631	13·57	3·85	31·11	4·80	66·00	22·4	2·14	87·7	(11,275)	9,032
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	22,748	15·67	7·66	31·01	2·44	64·00	23·2	2·24	88·2	11,599	9,107
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	16,359	11·27	1·49	28·15	2·42	66·00	23·6	2·30	89·2	(10,311)	8 833
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	17,503	14·47	4·84	24·38	2·23	62·00	23·6	2·29	88·8	9,567	7,080
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	17,907	14·80	3·83	20·29	2·31	62·00	23·8	2·29	87·7	7,672	5,888
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	15,225	12·58	12·37	21·38	1·54	62·50	22·7	2·18	87·7	(7,749)	5,981
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	15,346	12·69	·40	24·18	3·53	63·00	23·4	2·28	89·1	9,318	7,108
	9	71	6·55	7·88	31·32	9·49	55·54	5 x 5	20,325	11·67	4·74	31·95	4·83	63·00	22·6	2·20	89·1	(11,580)	9,096
	14	...	9·32	11·08	36·28	...	...	5 x 6	18,779	12·93	None	34·90	2·83	59·00	21·0	2·03	89·0	(12,649)	8,641
Mean of 13 plots	...	...	...	...	...	...	...	...	18,083	12·91	4·47	27·20	3·02	63·23	23·0	2·22	88·6	10,052	7,829
Ba. 8069 ..	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	20,664	14·23	6·76	32·54	3·07	64·00	21·4	2·02	87·1	11,173	8,682
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	14,743	12·19	7·47	25·59	2·02	62·75	21 1	1·96	85·6	(8,392)	6,473
Mean of 3 plots	...	...	...	...	...	...	...	...	16,717	12·87	7·23	27·90	2·37	63·17	21·2	1·98	86·1	9,319	7,209
Ba. 11569 ..	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	20,720	11·89	None	34·26	5·36	67·00	21·8	2·13	89·9	(12,340)	10,074
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	21,441	14·77	9·26	40·51	3·28	65·20	22·8	2·20	88·3	15,500	11,926
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	17,158	11·82	4·56	31·68	2·95	64·00	22·4	2·12	86·9	(11,415)	8,838
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	15,688	12·97	5·66	27·82	2·86	61·00	22·4	2·17	88·9	10,038	7,569
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	14,035	11·60	3·45	21·57	2·47	62·00	21·4	2·03	87·5	7,209	5,603
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	16,657	13·77	6·17	30·88	2·94	62·75	22·0	2·12	88·3	(11,123)	8,434
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	16,072	13·29	3·33	29·76	3·57	63·00	22·2	2·11	87·2	10,876	8,137
	9	71	6·55	7·88	31·32	9·49	55·54	5 x 5	20,121	11·55	2·46	39·98	5·91	63·00	21·4	2·04	87·9	(11,399)	10,604
	14	...	9·32	11·08	36·28	...	...	5 x 6	20,183	13·90	None.	40·97	4·71	57·00	21·6	2·15	91·5	(14,757)	10,354
Mean of 13 plots	...	...	...	...	...	...	...	...	17,852	12·77	4·00	33·06	3·80	62·90	22·0	2·11	88·2	11,956	9,042

TABLE IX.—(*Contd.*)—FIELD AND FACTORY RESULTS. *Black Soils.– Plant Canes.*

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES		Per cent. by No. of Rotten Canes.	TONS PER ACRE.		JUICE.				LB. PER ACRE SACCHAROSE.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B. 2001 ..	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	21,635	17·88	4·69	31·42	3·00	63·25	20·0	1·78	82·4	...	7,340
	9	71	6·55	7·88	31·62	9·49	55·54	5 x 5	23,693	13·60	3·28	32·79	4·67	61·00	18·3	1·70	85·0	...	7,098
Mean of 4 plots	...	...	...	...	...	...	...	...	22,664	15·74	3·98	32·10	3·83	62·13	19·3	1·74	83·7	...	7,219
B. 67 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	20,150	11·57	3·46	30·07	4·80	72·50	19·2	1·77	85·5	(10,231)	8,037
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	19,336	13·32	7·51	30·69	3·30	67 00	22·2	2·14	88·4	(10,043)	9,053
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	13,954	11·53	10·40	18·94	2·12	65 00	21·0	1·95	85·5	6,695	4,963
	6	183	8·31	10·10	31·28	7·00	56·39	6 x 6	15,366	12·70	6·56	20·08	3·96	65·00	22·2	2·05	84·7	(6,832)	5,503
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	18,108	14·97	4·77	25·19	3·12	67·75	21·0	1·94	85·1	(8,708)	6,826
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	14,983	15·29	2·73	23·68	4·32	66·00	22·4	2·15	88·1	8,910	6,906
	14	...	9·32	11·08	36·28	...	...	5 x 6	15,827	10·90	8·87	37·55	4·58	66·00	19·0	1·82	89·2	(12,777)	9,402
Mean of 10 plots	...	...	...	...	...	...	...	...	17,015	12·80	5·93	26·58	3·60	67·00	21·3	2·00	86·8	9,186	7,343
B. 117 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	18,408	10·57	5·05	29·89	3·27	64·50	21·0	1·97	86·8	...	7,852
	4	110	7·27	10·94	30·53	6·98	55 72	5 x 6	18,997	13·09	4·23	27·40	3·60	62·00	24·2	2·35	83·4	...	8,211
Mean of 3 plots	...	...	...	...	...	...	...	...	18,801	12·25	4·50	28·23	3·49	63·17	23·1	2·22	87·9	...	8,091
Ba. 263 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	22,415	12·87	1·55	29·99	3·97	66·00	20·2	1·92	88·1	(11,380)	7,883
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	19,157	15·83	10·74	18·82	1·80	63·00	22·0	2·13	89·1	7,139	5,199
Mean of 2 plots	...	...	...	...	...	...	...	...	20,786	14·35	6·15	24·41	2·89	64·50	21·1	2·03	88·6	9,260	6,541

TABLE IX.- (*Contd.*)—FIELD AND FACTORY RESULTS. *Black Soils.—Plant Canes.*

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES.		Per cent. by No. of Rotten Canes.	TONS PER ACRE.		JUICE.				LB. PER ACRE SACCHAROSE.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B. 268 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	17,237	9·89	3·93	26·36	5·40	66·00	19·6	1·83	86·7	(9,371)	6,619
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	16,359	11·27	9·17	30·14	2·81	65·00	21·2	2·01	87·4	10,445	8,135
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	10,687	8·83	6·42	18·73	2·39	63·00	21·6	2·10	89·4	6,824	5,109
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	13,358	11·04	13·06	23·87	2·64	63·75	20·4	1·89	85·5	(8,486)	5,945
	9	71	6·55	7·38	31·62	9·49	55·54	5 x 5	15,679	9·00	4·50	24·18	2·58	63·00	19·6	1·84	87·2	(8,594)	5,827
	14	...	9·32	11·08	36·28	...	...	5 x 6	16,843	11·60	4·31	34·96	3·87	64·00	19·8	1·91	89·3	(12,428)	8,878
Mean of 8 plots	..	..	..	..	..	..	...	...	14,899	10·21	7·37	25·79	3·11	63·94	20·3	1·91	87·3	9,153	6,536
B. 374 ...	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	16,616	13·73	None.	22·06	4·95	62·50	22·4	2·19	89·7	8,038	6,205
B. 381 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	20,502	11·77	7·84	36·49	5·80	68·50	19·8	1·90	88·8	(13,053)	9,867
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	18,276	12·59	1·64	39·45	3·13	65·00	21·4	2·08	89·6	14,467	11,009
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	14,882	12·30	3·37	29·95	4·15	65·00	22·6	2·21	89·5	(0,714)	8,837
	9	71	6·55	7·88	31·62	9·49	55·54	5 x 5	19,280	11·07	5·34	33·48	5·03	63·00	21·2	2·09	90·9	(11,977)	9,107
Mean of 6 plots	...	...	...	...	...	...	—	...	17,850	11·85	4·48	33·80	4·55	64·92	21·5	2·10	89·9	12,150	9,460
B. 391 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	22,981	13·19	2·92	28·56	5·08	65·00	20·4	1·97	89·1	(10,293)	7,580
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	21,538	14·83	7·64	37·73	3·35	63·00	21·8	2·04	86·1	(13,598)	9,992
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	18,229	15·07	3·54	20·80	4·07	63·00	21·4	2·06	88·8	7,178	5,570
Mean of 3 plots	...	..	...	...	...	...	...	...	20,916	14·36	4·70	29·03	4·17	63·67	21·2	2·02	88·0	10,356	7,714
B. 397 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	22,880	13·13	1·52	22·94	3·76	52·00	22·8	2·21	88·7	...	5,411
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	16,354	13·52	·69	23·08	3·88	63·00	24·4	2·38	88·8	...	7,056
Mean of 3 plots	...		...	...	...	...	...	...	18,529	13·39	·96	23·03	3·84	59·33	23·9	2·32	88·8	...	6,507

TABLE IX—(*Concld.*)—FIELD AND FACTORY RESULTS.

SELECT SEEDLING STATIONS.

Black Soils.—Plant Canes.

Name of Variety.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES		Per cent. by No. of Rotten Canes.	TONS PER ACRE		JUICE.				LB. PER ACRE SACCHAROSE	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B. 425 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	18,640	10·70	None.	27·97	3·50	61·50	21·6	2·16	91·9	(10,039)	7,664
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	16,495	13·63	5·13	24·04	2·18	61·00	23·4	2·29	89·4	(8,675)	6,874
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	16,011	13·24	4·59	24 04	2·88	62·10	23·6	2·35	90·9	(8,675)	7,172
	8	186	6·28	6·68	30·26	5·32	48·54	6 x 6	15,749	13·02	7·86	25·08	2·39	64·00	22·4	2·20	90·2	9,051	7,259
Mean of 6 plots	...	...	...	...	..	...	...	...	16,413	12·81	5·00	25·04	2·70	62·45	22·8	2·26	90·6	9,028	7,233
B. 472 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	18,836	10·81	·58	25·52	6·56	66·50	20·2	1·95	89·5	(9,318)	6,863
	2	103	6·38	9·31	27·87	5·69	49·25	5 x 6	17,763	12·23	4·63	36·19	5·21	64·00	23·4	2·33	91·0	13,985	11,048
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	19,360	13·33	1·25	27·33	3·20	63·00	23·0	2·25	89 6	9,386	7,945
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	15,608	12·90	4·39	26·79	3·06	61·00	23·2	2·27	89·4	10,190	7,601
	6	183	8·31	10·10	31·28	7·00	56·69	6 x 6	13,390	11·07	1·20	18·46	3·73	60·00	22·0	2·15	90·0	6,523	4,902
	7	254	6·99	8·77	29·18	5·19	50·13	6 x 6	16,596	13·72	·85	31·71	3·25	61·75	22·1	2·17	88·9	(11,735)	8,732
Mean of 7 plots	...	...	...	...	...	...	...	...	16,878	12·54	1·96	28·24	4·04	62·57	22 4	2·18	89·6	10,410	7,975
B. 600 ..	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	23,034	13·22	4·20	34·62	4·67	66·00	19·4	1·80	86·1	(11,152)	8,558
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	16,939	14·00	5·48	23·86	3·24	60·00	20·4	1·91	86·4	7,684	5,665
	9	71	6·55	7·88	31·62	9·49	55·54	5 x 5	23,141	13·29	1·62	31·84	4·97	62·00	20·2	1·80	87·2	(10.255)	7,779
Mean of 4 plots	...	...	...	...	...	...	...	...	21,564	13·45	3·23	30·54	4·46	62·50	20·1	1·88	86·7	9,836	7,445
B. 603 ...	1	210	6·12	6·69	25·51	5·06	43·38	5 x 5	25,841	14·83	2·25	32·41	4·67	67·00	20 0	1·87	86·6	10,830	8,428
	4	110	7·27	10·94	30·53	6·98	55·72	5 x 6	17,956	12·37	1·11	26·02	3·07	63·00	21·4	2·03	87·5	(8,910)	6,867
	5	271	6·47	9·49	30·17	6·43	52·56	6 x 6	16,616	13·73	3·64	22·60	1·91	63·00	22·0	2·11	88·3	7,926	6,184
	9	71	6·55	7·83	31·62	9·49	55·54	5 x 5	22,589	12·97	·87	30·54	4·24	62·00	20·8	1·98	88·0	(10,460)	7,757
Mean of 6 plots	...	...	...	...	...	...	...	...	20,591	13·20	1·64	28·02	3·53	63·33	21·1	2·00	87·7	9,583	7,310

TABLE X—FIELD AND FACTORY RESULTS.

Red Soils.—Plant Canes.

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	Rainfall, Inches.					Lining, Feet.	No. of Canes.		Per cent. by No. of Rotten Canes.	Tons per Acre.		Juice.				Lb. per Acre Saccharose.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans. ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	23,837	13·69	19·08	31·65	5·31	63·00	19·8	1·81	84·6	10,171	7,497
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	16,579	9·45	2·08	28·78	6·87	65·00	21·2	2·08	90·4	10,707	8,037
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	17,587	10·10	19·49	24·91	4·04	64·00	20·4	1·92	86·9	7,979	6,343
Mean of 5 plots	...	...	...	...	...	...	...	...	19,684	11·27	12·36	29·15	5·68	64·00	20·5	1·94	87·4	9,947	7,482
Ba. 6032 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	20,720	11·90	2·24	41·67	4·17	65·00	18·8	1·76	87·1	12,553	9,944
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	16,781	9·64	·54	38·46	5·19	67·00	20·4	1·94	87·8	12,888	10,359
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	17,232	9·89	4·33	37·58	4·05	65·00	20·2	1·91	87·6	(11,684)	9,676
Mean of 5 plots	...	...	...	...	...	...	...	...	18,447	10·59	1·98	39·56	4·55	65·80	19·7	1·86	87·5	12,513	10,056
B.H. 10 (12) ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	21,080	12·10	4·27	46·12	5·90	63·00	20·6	1·94	87·0	15,527	11,672
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	19,106	10·97	·98	38·76	6·11	66·00	22·2	2·17	89·7	14,411	11,420
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	19,744	11·33	2·06	39·51	4·93	65·00	22·6	2·17	87·8	(14,320)	11,446
Mean of 5 plots	...	...	...	...	...	...	...	...	20,023	11·49	2·51	41·85	5·79	64·60	21·6	2·08	88·2	14,839	11,526
Ba. 11569 ...	10	792	8·07	8·04	27·52	7·64	51·27	5x 5	24,651	14·15	17·75	42·39	5·49	63·50	20·4	1·98	89·6	14,593	11,044
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	19,918	11·17	2·38	40·28	6·93	65·00	22·2	2·19	90·5	15,418	11,795
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	21,950	12·60	5·56	45·76	4·87	64·00	22·8	2·23	89·6	(16,482)	13,401
Mean of 5 plots	...	...	...	...	...	...	...	...	22,218	12·65	9·16	42·22	5·94	64·20	21·6	2·11	90·0	15,301	11,816
B. 39 ...	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	18,786	10·78	2·47	31·27	7·13	67·00	21·0	2·02	88·6	(9,960)	8,748

TABLE X.—(*Concluded*)—FIELD AND FACTORY RESULTS. *Red Soils.—Plant Canes.*

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	Rainfall, Inches.					Lining, Feet.	No. of Canes.		Per cent. by No. of Rotten Canes.	Tons per Acre.		Juice.				Lb. per Acre Saccharose.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B. 67 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	25,203	14·47	31·10	36·49	6·16	67·00	20·6	1·82	81·6	10,977	9,214
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	19,620	10·59	1·59	27·77	8·00	67·00	20·8	2·01	89·3	9,173	7,736
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	20,092	11·53	9·54	36·97	5·60	67·00	20·8	1·96	87·1	(12,579)	10,045
Mean of 5 plots	...	...	...	...	...	...	...	...	21,947	12·33	14·98	33·09	6·78	67·00	20·7	1·92	85·8	10,576	8,789
B. 268 ...	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	17,870	10·26	4·40	33·20	4·49	66·00	21·0	2·05	89·9	11,802	9,286
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	17,363	9·97	3·34	29·79	3·73	65·00	21·2	2·01	87·4	(10,590)	8,039
Mean of 3 plots	...	...	...	...	...	...	...	...	17,701	10·16	4·04	32·06	4·27	65·67	21·1	2·04	89·1	11,398	8,870
B. 374 ...	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	21,718	12·46	4·81	41·74	6·22	61·00	22·0	2·14	89·5	14,828	11,218
B. 381 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	19,417	11·15	17·59	44·43	4·92	65·00	20·4	1·98	89·6	15,506	11,850
B. 391 ...	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	21,777	12·50	3·83	37·79	6·96	64·00	22·2	2·20	90·9	14,185	10,945
B. 405 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	22,212	12·75	21·98	35·84	4·28	68·00	20·8	1·94	86·2	12,548	9,783
B. 472 ...	10	792	8·07	8·04	27·52	7·61	51·27	5 x 5	18,591	10·67	7·48	39·37	5·21	64·00	21·4	2·03	87·5	13,784	10,558
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	18,074	10·38	1·36	39·00	7·41	64·00	22·0	2·20	92·1	14,317	11,305
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	17,015	9·77	7·17	33·78	4·02	63·00	22·4	2·20	90·2	12,334	9,624
Mean of 5 plots	...	...	...	...	...	...	...	...	18,069	10·37	4·97	38·10	5·85	63·80	21·8	2·13	89·9	13,707	10,670

TABLE XI.—FIELD AND FACTORY RESULTS.

Red Soils.—First Ratoons.

SELECT SEEDLING STATIONS.

NAME OF VARIETY.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES.		Per cent. by No. of Rotten Canes.	TONS PER ACRE.		JUICE.				LB. PER ACRE SACCHAROSE.	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
W. Trans. ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	21,080	12·10	16·40	26·34	5·83	62·00	17·8	1·60	84·2	7,110	5,473
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	18,989	10·90	19·57	22·04	5·18	61·00	19·8	1·92	89·7	6,881	5,362
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	19,744	11·33	14·12	26·83	5·08	66·00	20·6	1·95	87·4	(8,961)	7,151
Mean of 4 plots	...	...	...	...	...	...	...	...	20,223	11·61	16·62	25·39	5·48	62·75	19·0	1·77	86·4	7,515	5,865
Ba. 6032 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	19,801	11·37	1·82	31·21	5·67	63·00	19·2	1·77	85·5	9,129	7,247
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	18,788	10·79	None	23·33	4·72	62·00	18·6	1·73	86·5	6,407	5,224
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	18,969	15·26	2·04	35·00	3·57	67·00	18·6	1·67	83·5	(10,882)	8,175
Mean of 4 plots	...	...	...	...	...	...	...	...	19,340	12·20	1·38	30·19	4·91	63·75	18·9	1·74	85·3	8,887	6,973
B.H. 10 (12) ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	17,914	10·29	6·00	32·24	5·64	62·00	22·2	2·14	88·4	11,597	8,800
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	22,067	12·67	None	27·35	5·96	60·00	21·8	2·13	89·9	9,135	7,203
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	18,002	10·33	5·16	29·29	3·94	66·00	22·4	2·14	87·7	(10,616)	8,505
Mean of 4 plots	...	...	...	...	...	...	...	...	18,974	10·89	4·29	30·28	5·30	62·50	22·2	2·14	88·6	10,736	8,327
Ba. 11569 ...	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	22,009	12·63	32·07	20·21	3·18	61·00	21·2	2·04	88·7	6,994	5,195
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	24,066	13·81	None	33·93	6·62	60·00	22·4	2·20	90·2	12,556	9,207
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	25,493	14·63	28·93	29·61	3·73	62·00	21·8	2·08	87·8	(10,665)	7,868
Mean of 4 plots	...	...	...	...	...	...	...	...	23,394	13·43	23·27	25·99	4·18	61·00	21·7	2·09	88·8	9,302	6,866
B. 39 ...	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	23,169	13·30	9·02	29·09	5·60	65·00	19·6	1·84	87·2	9,265	7,233
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	26,306	15·10	8·17	37·12	5·65	67·00	21·2	2·01	87·4	(11,821)	10,327
Mean of 2 plots	...	...	...	...	...	...	...	...	24,738	14·20	8·60	33·11	5·63	66·00	20·4	1·93	87·3	10,545	8,780

TABLE XI—(*Concld*)—FIELD AND FACTORY RESULTS. *Red Soils.—First Ratoons.*

SELECT SEEDLING STATIONS.

Name of Variety.	No. of Station.	Height above Sea level, feet.	RAINFALL, INCHES.					Lining, Feet.	NO. OF CANES		Per cent. by No. of Rotten Canes.	TONS PER ACRE		JUICE.				LB. PER ACRE SACCHAROSE	
			Dec. to March.	April to July.	Aug. to Nov.	Dec. to March.	Total.		Per Acre.	Per Stool.		Canes.	Tops.	Extraction per cent. by mill.	Degree Brix.	lb. per gallon Saccharose.	Purity.	In Cane.	In Juice.
B. 67 ...	10	792	8·07	8·04	27·52	7·61	51·27	5 x 5	21,550	12·37	11·06	27·53	6·06	66·00	18·8	1·73	85·7	8,479	6,557
	12	720	8·94	11·32	37·91	10·86	69·03	5 x 5	22,582	12·96	3·31	24·02	6·33	65·00	20·2	1·94	89·0	8,701	6,283
	13	731	11·06	11·92	33·33	9·08	65·39	5 x 5	22,996	13·20	15·66	29·09	4·59	66·00	22·0	2·11	88·3	(9,898)	8,340
Mean of 4 plots	...	...	...	...	..	...	...	...	22,170	12·73	10·27	27·04	5·76	65·75	20·0	1·88	87·2	8,889	6,934
B. 405 ..	10	792	8·07	8·04	27·52	7·64	51·27	5 x 5	21,176	12·16	4·77	31·74	8·58	62·00	20·6	1·98	88·8	10,222	8,068

TABLE XII. COMPOSITION OF CANES AND JUICE.

Name of Variety.	CANES.				JUICE.						
	Water.	Saccharose.	Fibre.	Other Substances.	Extraction per cent. by mill.	Degree Brix.	Water.	Saccharose.	Glucose.	Other Substances.	Purity.
W. Trans.											
Highest ...	...	16·76	...	...	...	...	...	19·43	...	...	90·4
Lowest ...	...	12 05	...	...	...	...	...	14·96	...	...	82·9
Mean of 14 samples ...	70·71	14·92	11·60	2·77	63·00	20·3	79·59	17·80	1·03	1·58	87·2
Ba. 6032											
Highest ...	...	15·07	...	...	...	...	...	17·95	...	...	88·4
Lowest ...	...	12·26	...	...	...	...	...	16·12	...	...	84·6
Mean of 10 samples ...	70·50	13·88	13·10	2·52	63·85	19·6	80·41	16·91	1·05	1·54	86·3
B.H. 10 (12)											
Highest ...	...	17·52	...	...	...	...	...	20·91	...	...	89·9
Lowest ...	...	14·91	...	...	...	...	...	17·94	...	...	86·4
Mean of 10 samples ...	68·39	16·19	12·96	2·46	63·40	22·4	77·51	19·80	·93	1·66	88·4
Ba. 8069											
Highest ...	...	15·33	...	...	...	...	...	18·61	...	...	87·1
Lowest ...	...	14·43	...	...	...	...	...	17·37	...	...	83·6
Mean of 2 samples ...	68·96	14·88	12·55	3·61	63·75	21·1	78·92	17·99	·87	2·22	85·4
Ba. 11569											
Highest ...	...	17·09	...	...	...	...	...	20·19	...	...	90·5
Lowest ...	...	14·92	...	...	...	...	...	18·32	...	...	87·2
Mean of 11 samples ...	68·67	16·11	12·60	2·62	62·52	21·8	78·18	19·42	·94	1·47	89·0
B. 2001											
Highest ...	...	...	...	...	...	...	...	16·95	...	...	86·2
Lowest ...	...	...	...	—	...	...	...	15·85	...	...	83·9
Mean of 3 samples ...	...	...	...	...	62·50	19·5	80·44	16·28	1·21	2·07	85·0
B. 39											
Highest ...	...	...	...	...	...	...	...	18·54	...	...	87·4
Lowest ...	...	...	...	...	...	...	...	17·08	...	...	87·2
Mean of 2 samples ...	...	...	...	...	66·00	20·4	79·60	17·81	1·04	1·55	87·3
One sample ...	73·20	14·22	10·37	2·21	65·00	19·6	80·41	17·08	·86	1·65	87·2
B. 67											
Highest ...	...	16·80	...	...	...	...	...	19·73	...	...	89·3
Lowest ...	...	13·43	...	...	...	...	...	16·11	...	...	81·6
Mean of 8 samples ...	71·15	15·20	10·90	2·75	66·50	2·06	79·42	17·81	·96	1·82	86·5
B. 117											
Highest ...	...	...	...	...	...	...	...	21·41	...	...	88·1
Lowest ...	...	...	...	...	...	...	...	18·27	...	...	86·8
Mean of 2 samples ...	...	...	...	...	63·50	22·6	77·37	19·84	·89	1·91	87·6

TABLE XII—(*Contd.*) COMPOSITION OF CANES AND JUICE.

Name of Variety.	CANES.				JUICE.						
	Water.	Saccharose.	Fibre.	Other Substances.	Extraction per cent. by mill.	Degree Brix.	Water.	Saccharose.	Glucose.	Other Substances.	Purity.
B. 263											
Highest ...	...	...	...	...	...	...	...	19·58	...	...	89·1
Lowest ...	...	...	...	...	...	...	...	17·78	...	...	88·1
Mean of 2 samples ...	...	...	...	...	64·50	21·1	78·92	18·68	·95	1·45	88.6
One sample ...	69·14	16·94	10·24	3·68	63·00	22·0	78·03	19·58	1·15	1·24	89·1
B. 268											
Highest ...	...	16·27	...	...	...	...	...	19·34	...	...	89·4
Lowest ...	...	15·47	...	...	...	...	...	18·54	...	...	87·4
Mean of 2 samples ...	69·40	15·87	13·03	1·70	64·00	21·4	78·58	18·94	·83	1·66	88·4
B. 374											
Highest ...	...	16·27	...	...	...	...	...	20·10	...	...	89·7
Lowest ...	...	15·86	...	...	...	...	...	19·67	...	...	89·5
Mean of 2 samples ...	68·30	16·07	12·97	2·66	61·75	22·2	77·82	19·89	1·12	1·18	89·6
B. 381											
Highest ...	...	16·37	...	...	...	...	...	19·17	...	...	89·6
Lowest ...	...	15·58	...	...	...	...	...	18·32	...	...	89·6
Mean of 2 samples ...	69·62	15·98	12·21	2·19	65·00	20·9	79·09	18·75	·79	1·39	89·6
B. 391											
Highest ...	...	16·76	...	...	...	...	...	20·21	...	...	90·9
Lowest ...	...	15·41	...	...	...	...	...	18·98	...	...	88·8
Mean of 2 samples ...	69·99	16·09	11·89	2·03	63·50	20·8	78·20	19·60	1·02	1·18	89·9
B. 397											
Highest ...	...	...	...	...	...	...	...	21·66	...	...	88·8
Lowest ...	...	...	...	...	...	...	...	20·25	...	...	88·7
Mean of 2 samples ...	...	...	...	...	57·50	23·6	76·35	20·96	·88	1·77	88·8
B. 405											
Highest ...	...	16·36	...	...	...	...	...	19·76	...	...	90·0
Lowest ...	...	14·38	...	...	...	...	...	17·92	...	...	86·2
Mean of 4 samples ...	69·08	15·30	12·69	2·93	64·63	21·0	79·05	18·56	·81	1·60	88·5
B. 417											
Highest ...	...	15·21	...	...	...	...	...	18·57	...	...	89·3
Lowest ...	...	14·86	...	...	...	...	...	18·04	...	...	88·2
Mean of 2 samples ...	68·16	15·04	13·82	2·98	61·50	20·6	77·39	18·31	·82	1·50	88·8
B. 425											
Highest ...	...	...	...	...	...	...	...	21·61	...	...	91·9
Lowest ...	...	...	...	...	...	...	...	19·89	...	...	89·4
Mean of 5 samples ...	...	...	...	...	62·14	22·9	77·07	20·79	·76	1.38	90·7
One sample ...	69·11	16·11	13·50	1·28	64·00	22·4	77·61	20·19	·79	1·41	90·2
B. 472											
Highest ...	...	17·25	...	...	...	...	...	21·29	...	...	92·1
Lowest ...	...	15·33	...	...	...	...	...	18·70	...	...	87·5
Mean of 7 samples ...	67·38	16·30	13·68	2·64	62·57	22·5	77·47	20·23	·79	1·51	89·8

TABLE XII.—(*Concld.*) COMPOSITION OF CANES AND JUICE.

Name of Variety.	CANES.				JUICE.						
	Water.	Saccharose.	Fibre.	Other Substances.	Extraction per cent. by mill.	Degree Brix.	Water.	Saccharose.	Glucose.	Other Substances.	Purity.
B. 600											
Highest ...	...	...	...	...	...	...	...	17·67	...	...	87·2
Lowest ...	...	...	...	...	...	...	...	16·72	...	...	86·1
Mean of 3 samples ...	...	...	...	...	62·67	20·0	79·98	17·38	·92	1·78	86·6
One sample ...	69·17	14·38	14·24	2·21	60·00	20·4	79·55	17·67	·72	2·06	86·4
B. 603											
Highest ...	...	15·66	...	...	...	...	...	19·40	...	...	88·3
Lowest ...	...	14·92	...	...	...	...	...	17·33	...	...	86·6
Mean of 2 samples ...	69·62	15·29	11·85	3·24	65·00	21·0	79·01	18·37	·91	1·72	87·5